



REPLACEMENT SHEET

Serial No. 10/816,218; Applicant: Judge; Filing date: 3/31/2004

TECHNICAL DESIGN CONCEPTS TO IMPROVE HELICOPTER OBSTACLE AVOIDANCE
AND OPERATIONS IN "BROWNOUT" CONDITIONS

1/4

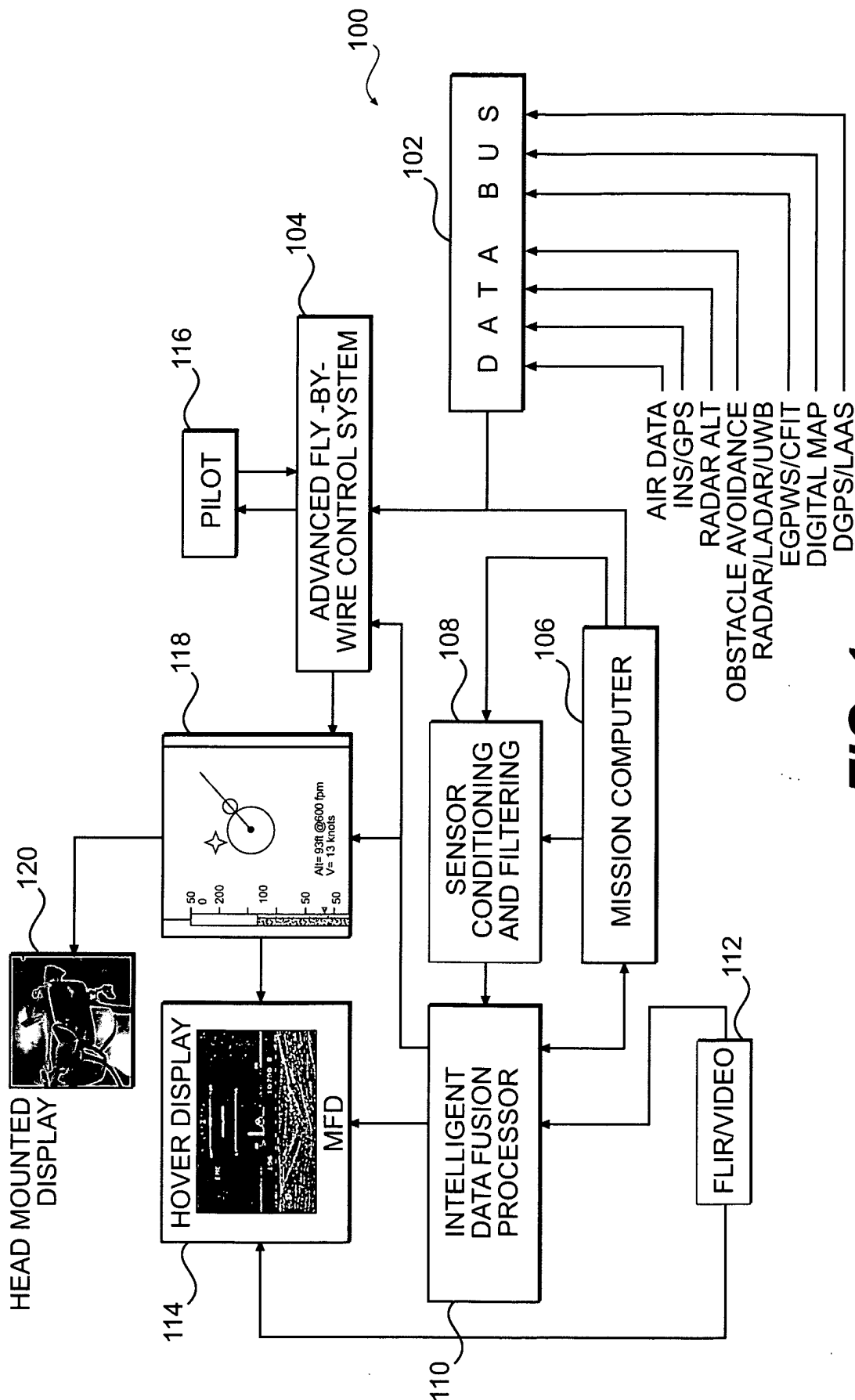


FIG. 1

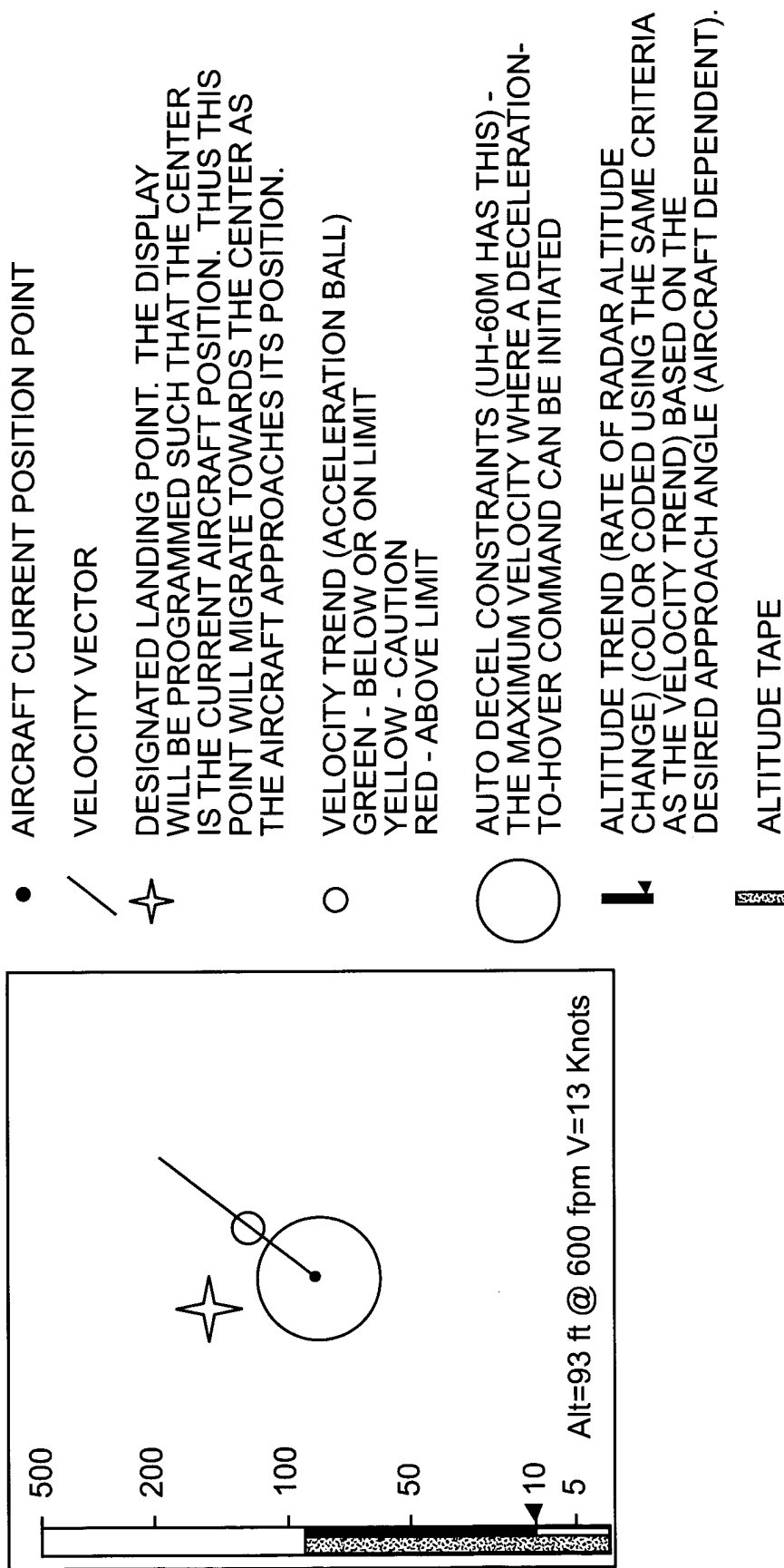
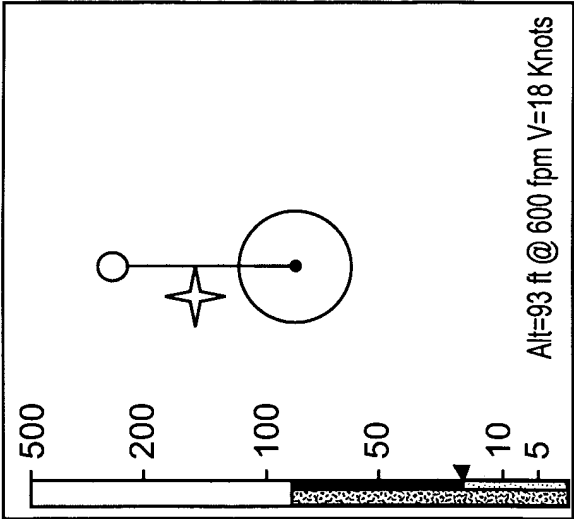


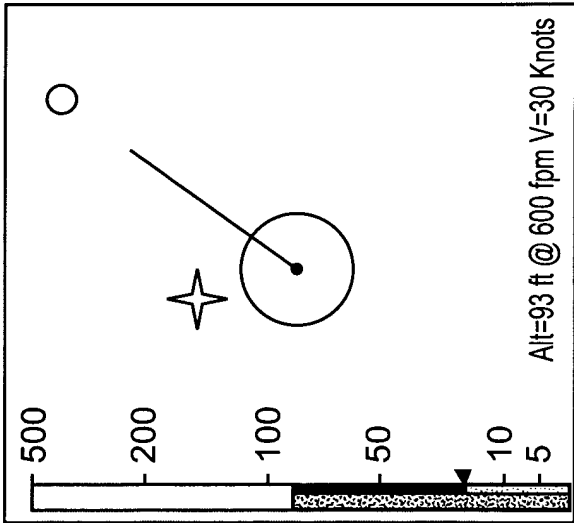
FIG. 2

FIG. 2A



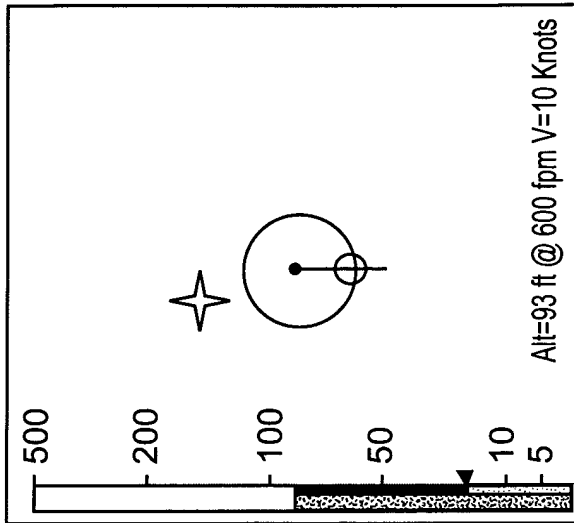
AIRCRAFT ACCELERATING
FORWARD/LONGITUDINALLY

FIG. 2B



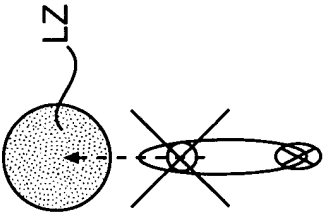
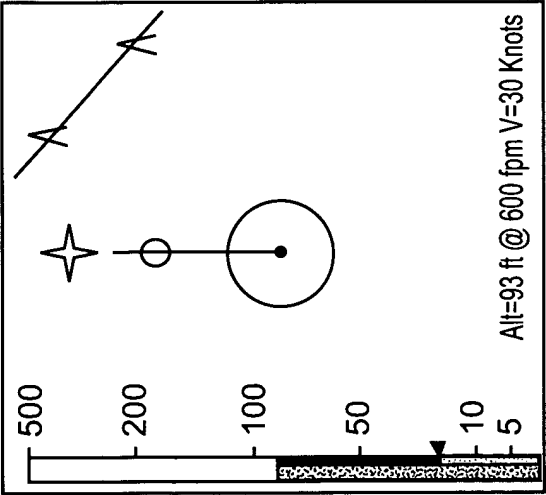
AIRCRAFT ACCELERATING
FORWARD AND TO THE RIGHT

FIG. 2C



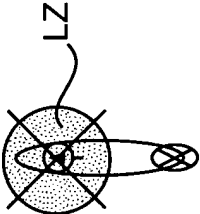
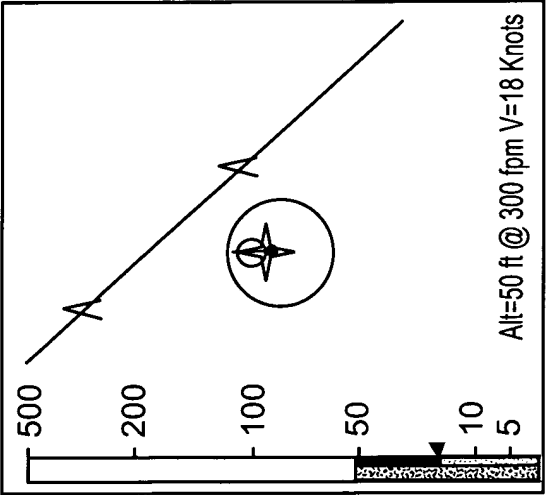
AIRCRAFT DECELERATING AND MOVING
REARWARD. AIRCRAFT IS SLOWING DOWN
INDICATED BY VECTOR RETRACTING/
GETTING SMALLER AND CIRCLE IS MOVING
TOWARDS CENTER - AIRCRAFT IS
SLOWING DOWN TO A HOVER

FIG. 3A



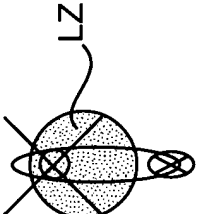
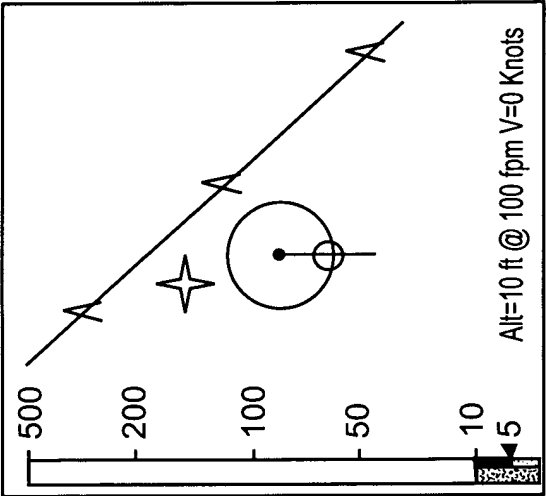
APPROACH TO HOVER,
AIRCRAFT MOVING FORWARD
LONGITUDINALLY BUT SLOWING DOWN
INDICATED BY ACCEL BALL RETRACTING
DOWN VELOCITY VECTOR

FIG. 3B



AIRCRAFT COMING TO A HOVER
AT 50 FEET OVER GROUND. DECENT
RATE SLOWED DOWN INDICATED BY
REDUCTION IN ALT TREND BAR.
INDICATED BY SMALL VECTOR, AND
ACCEL BALL APPROACHING
HOVER POINT.

FIG. 3C



HOVER